

Commercial Space Transportation License

License Number: LLO 99-048 (Rev 1)

BOEING LAUNCH SERVICES

is authorized, subject to the provisions of 49 USC Subtitle IX, ch. 701, and the orders, rules, and regulations issued under it, to conduct commercial space launches.

General. Boeing Launch Services is authorized to conduct:

(i) flights of Delta II launch vehicles from Vandenberg Air Force Base (VAFB), on flight azimuths and transporting classes of payloads to orbital destinations as specified in license orders issued by the Office; and

(ii) pre-flight ground operations at VAFB associated with the conduct of authorized commercial space flights.

This license is granted subject to the terms, conditions, and limitations set forth in licensing orders A, B, C, and D, and any subsequent orders issued by the Associate Administrator for Commercial Space Transportation.

The licensee shall at all times conduct its operations in accordance with the regulations prescribed by the Associate Administrator for Commercial Space Transportation for the activities authorized by this license.



U.S. Department
Transportation
Federal Aviation
Administration

800 Independence Ave., S.W.
Washington, D.C. 20591

Original Issued On: December 21, 1999
Revision 1 Issued On: September 11, 2007
Revision 1 Effective On: September 11, 2007

A handwritten signature in cursive script, reading "Carol C. Flier", is written over a horizontal line.

Manager, Licensing and Safety Division

ASSOCIATE ADMINISTRATOR
FOR COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

COMMERCIAL SPACE LAUNCHES

AUTHORIZED BY LICENSE NO. LLO 99-048
ISSUED TO


BOEING LAUNCH SERVICES

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1. Authority: This Order is issued to Boeing Launch Services (BLS), wholly-owned subsidiary of The Boeing Company, under 49 U.S.C. Subtitle IX, chapter 701, and 14 C.F.R. Ch. III.
 2. Purpose: This Order modifies License No. LLO 99-048 issued on December 21, 1999, renewed on December 28, 2004, and transferred to BLS on September 11, 2007, by the Associate Administrator for Commercial Space Transportation (Office), authorizing BLS to conduct commercial space launches; and prescribes as conditions to License No. LLO 99-048 certain requirements applicable to those launches.
 3. Definitions: For purposes of License No. LLO 99-048 and any orders issued by the Office pertaining to activities covered by License No. LLO 99-048:
 - (a) "Commercial space launches" shall mean (i) commercial space flights, and (ii) pre-flight ground operations, as defined in this section.
 - (b) "Commercial space flights" shall mean the flight of Delta II launch vehicles from Vandenberg Air Force Base (VAFB), on flight azimuths and transporting classes of payloads to orbital destinations as specified in License Order No. LLO 99-048B issued concurrently by the Office. A commercial space flight commences upon first-stage engine ignition of a Delta II launch vehicle. A nominal commercial space flight shall be deemed concluded upon safing of Delta II launch vehicle stages or components that reach earth orbit following separation of the payload.
 - (c) "Pre-flight ground operations" shall mean BLS's operations at VAFB associated with the conduct of commercial space flights, beginning with the arrival of the launch vehicle at VAFB.

4. License Term: The term of License No. LLO 99-048 authorizing BLS to conduct commercial space launches is five (5) years from January 3, 2010.

ASSOCIATE ADMINISTRATOR FOR COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By:


Kenneth Wong, Manager
Licensing and Safety Division

Issued: December 17, 2009
Effective: January 3, 2010

Revision History:

Original License Order - Issued December 21, 1999

Renewal Issued December 28, 2005

Revision 1 - Issued December 13, 2006

- 1) Replace McDonnell Douglas Corporation with Boeing Launch Services and MDC with BLS.
- 2) In paragraph 2, replace "concurrently" with "on December 21, 1999, and renewed on December 28, 2004."
- 3) Eliminate paragraphs 4 through 12, and renumber paragraph 13 as paragraph 4.
- 4) In paragraph 4, formerly paragraph 13, change term of the authorization from originating "from the effective date of this license" to "from January 3, 2005" incorporating the renewal for additional five year period introduced in License Order No. LLO 99-048F.

Revision 2 - Renewal issued December 17, 2009

- 5) In paragraph 2, replaced "amends" with "modifies"; moved "and" to be after "renewed on December 28, 2004," and inserted "transferred to BLS on September 11, 2007".
- 6) In paragraph 4, change term of the authorization from the effective date of the "January 3, 2005" to "January 3, 2010" incorporating the renewal for additional five year period beyond that originally introduced in License Order No. LLO 99-048F (now obsolete).

ASSOCIATE ADMINISTRATOR
FOR COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

COMMERCIAL SPACE FLIGHTS

AUTHORIZED BY LICENSE NO. LLO 99-048
ISSUED TO

BOEING LAUNCH SERVICES

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1. Authority: This Order is issued to Boeing Launch Services (BLS) under 49 U.S.C. Subtitle IX, chapter 701, and 14 C.F.R. Ch. III.
 2. Purpose: This Order modifies License No. LLO 99-048 issued on December 21, 1999, and renewed on December 28, 2004, by the Associate Administrator for Commercial Space Transportation (Office), authorizing BLS to conduct commercial space launches; and prescribes as conditions to License No. LLO 99-048 certain requirements applicable to the authorization to conduct commercial space flights.
 3. Authorization: BLS is authorized to conduct commercial space flights:
 - (a) Using Delta II 7320-10, Delta II 7420-10, and Delta II 7920-10 launch vehicles.
 - (b) From Vandenberg Air Force Base (VAFB), California;
 - (c) On initial flight azimuths from 190 to 230 degrees, inclusive, and at orbital inclinations of 52 degrees and from 65 to 105 degrees, inclusive;
 - (d) Transporting (i) U.S. Government payloads to any orbit, and (ii) communications, remote sensing and scientific research payloads that are designed to operate in low earth orbit.
 - (e) According to the launch vehicle, launch vehicle systems, and equipment designs and the safety management program including organization, personnel, functions and procedures represented or referenced in the BLS application as of the date of

this Order, and any modifications to the license approved by AST, in writing.

ASSOCIATE ADMINISTRATOR FOR COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Carole C. Flores
Carole C. Flores, Manager
Licensing and Safety Division

Issued: September 11, 2007
Effective: September 11, 2007

Revision History:

Original License Order - Issued December 21, 1999

Renewal Issued December 28, 2004

Revision 1 - Issued September 11, 2007

- 1) Replace McDonnell Douglas Corporation with Boeing Launch Services and MDC with BLS.
- 2) In Section 2, replace "amends" with "modifies."
- 3) In Section 2, replace "concurrently" with "on December 21, 1999, and renewed on December 28, 2004." This change incorporates the renewal issued to MDC by License Order No. LLO 99-048F, which is deleted by License Order No. LLO 99-048G.
- 4) Change Section 3(a) from "Using Delta II 7420-10 and Delta II 7920-10 launch vehicles" to "Using Delta II 7320-10, Delta II 7420-10, and Delta II 7920-10 launch vehicles" incorporating the change introduced in License Order No. LLO 99-048E and remove "For the Delta II launch vehicle, a nominal commercial space flight shall be deemed concluded upon safing of Delta II launch vehicle stages or components that reach earth orbit following separation of the payload;"
- 5) Eliminate sections 4 through 8 that restated regulations.

ASSOCIATE ADMINISTRATOR
FOR COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

PRE-FLIGHT GROUND OPERATIONS

AUTHORIZED BY LICENSE NO. LLO 99-048
ISSUED TO

BOEING LAUNCH SERVICES

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1. Authority: This Order is issued to Boeing Launch Services (BLS) under 49 U.S.C. Subtitle IX, chapter 701, and 14 C.F.R. Ch. III.
 2. Purpose: This Order modifies License No. LLO 99-048 issued on December 21, 1999, and renewed on December 28, 2004, by the Associate Administrator for Commercial Space Transportation (Office), authorizing BLS to conduct commercial space launches, and prescribes as conditions to License No. LLO 99-048 certain additional requirements applicable to the authorization to conduct pre-flight ground operations.
 3. Authorization: BLS is authorized to conduct pre-flight ground operations at Vandenberg Air Force Base (VAFB) associated with the conduct of commercial space flights, beginning with the arrival of the Delta II launch vehicle at VAFB.

ASSOCIATE ADMINISTRATOR FOR COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Carole C. Flores
Carole C. Flores, Manager
Licensing and Safety Division

Issued: September 11, 2007
Effective: September 11, 2007

License Order No. LLO 99-048C (Rev 1)

Revision History:

Original License Order - Issued December 21, 1999

Renewal Issued December 28, 2004

Revision 1 - Issued September 11, 2007

- 1) Replace McDonnell Douglas Corporation with Boeing Launch Services and MDC with BLS.
- 2) In Section 2, replace "amends" with "modifies," and replace "concurrently" with "on December 21, 1999, and renewed on December 28, 2004."
- 3) Eliminate sections 4 and 5 that restated regulations.

ASSOCIATE ADMINISTRATOR
FOR COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

FINANCIAL RESPONSIBILITY REQUIREMENTS

Under License No LLO 99-048
Issued to

BOEING LAUNCH SERVICES

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1. Authority: This Order is issued to Boeing Launch Services (BLS) under 49 U.S.C. Subtitle IX, chapter 701, and 14 C.F.R. Part 440.
 2. Purpose: This Order modifies License No. LLO 99-048 issued on December 21, 1999, and renewed on December 28, 2004, by the Associate Administrator for Commercial Space Transportation (Office), by prescribing financial responsibility requirements for licensed launch activities in accordance with 14 C.F.R. Part 440.
 3. Definitions: For purposes of this Order, "licensed launch activities" shall mean activities authorized by the License. Other terms used in this Order are defined in accordance with 14 C.F.R. § 440.3.
 4. Liability Insurance: BLS shall maintain a policy or policies of liability insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(b) in the following amounts:
 - (a) Liability insurance in the amount of Forty Eight Million Eight Hundred Thousand Dollars (\$48,800,000) for covered claims resulting from a commercial space flight, commencing upon first-stage engine ignition of a Delta II from VAFB; and
 - (b) Liability insurance in the amount of Ten Million Dollars (\$10,000,000) for covered claims resulting from pre-flight ground operations performed at VAFB.
 5. Government Property Insurance: BLS shall maintain a policy or policies of insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(d) in the following amounts:
 - (a) Insurance in the amount of Seventy-Nine Million Six Hundred Thousand Dollars (\$79,600,000) for covered property claims resulting from a commercial space

flight, commencing upon first-stage engine ignition of a Delta II from VAFB; and

- (b) Insurance in the amount of Sixty-Eight Million Six Hundred Thousand Dollars (\$68,600,000) for covered property claims resulting from pre-flight ground operations performed at VAFB.

ASSOCIATE ADMINISTRATOR FOR COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By:


Carole C. Flores, Manager
Licensing and Safety Division

Issued: September 11, 2007

Effective: September 11, 2007

Revision History:

Original License Order - Issued December 21, 1999

Renewal Issued December 28, 2004

Revision 1 - Issued July 13, 2005

- 1) Replace "concurrently" in paragraph 2 with "on December 21, 1999, and renewed on December 28, 2004."
- 2) Change paragraph 6(a) from "Liability insurance in the amount of Forty Million Dollars (\$40,000,000) for covered claims resulting from a commercial space flight, commencing upon first-stage engine ignition of a Delta II from VAFB;" to "Liability insurance in the amount of Forty-Eight Million Eight Hundred Thousand Dollars (\$48,800,000) for covered claims resulting from a commercial space flight, commencing upon first-stage engine ignition of a Delta II from VAFB;"
- 3) Change paragraph 7(a) from "Insurance in the amount of Forty Eight Million Eight Hundred Thousand Dollars (\$48,800,000) for covered property claims resulting from a commercial space flight, commencing upon first-stage engine ignition of a Delta II from VAFB;" to "Insurance in the amount of Seventy-Nine Million Six Hundred Thousand Dollars (\$79,600,000) for covered property claims resulting from a commercial space flight, commencing upon first-stage engine ignition of a Delta II from VAFB;"
- 4) Change paragraph 7(b) from "Insurance in the amount of Forty Two Million Dollars (\$42,000,000) for covered property claims resulting from pre-flight ground operations performed at VAFB" to "Insurance in the amount of Sixty-Eight Million Six Hundred Thousand Dollars (\$68,600,000) for covered property claims resulting from pre-flight ground operations performed at VAFB."

License Order No. LLO 99-048D (Rev 2)

Revision 2 - Issued September 11, 2007

- 1) Replace McDonnell Douglas Corporation with Boeing Launch Services and MDC with BLS.
- 2) In Section 2, replace "amends" with "modifies."
- 3) Eliminate sections 4, 5, and 8 through 12 that restated regulations, and renumber Section 6 as Section 4 and Section 7 as Section 5.

ASSOCIATE ADMINISTRATOR
FOR COMMERCIAL SPACE TRANSPORTATION
LICENSE ORDER REGARDING

TRANSFER OF LICENSE NO. LLO 99-048

FROM MCDONNELL DOUGLAS CORPORATION
TO BOEING LAUNCH SERVICES

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1. Authority: This Order is issued to Boeing Launch Services (BLS) under 49 U.S.C. Subtitle IX, chapter 701, and 14 C.F.R. Part 440.
 2. Purpose: This Order modifies License No. LLO 99-048 issued on December 21, 1999, and renewed on December 28, 2004, by the Associate Administrator for Commercial Space Transportation (Office) by transferring License No. LLO 99-048 to Boeing Launch Services (BLS).
 3. Transfer and Modifications: License No. LLO 99-048 is hereby transferred to Boeing Launch Services (BLS). License No. LLO 99-048 is replaced with License No. 99-048 (Rev 1) and License Order Nos. LLO 99-048A, LLO 99-048B, LLO 99-048C, and LLO 99-048D (Rev 1) are replaced with License Order Nos. LLO 99-048A (Rev 1), LLO 99-048B (Rev 1), LLO 99-048C (Rev 1), LLO 99-048D (Rev 2), respectively. License Order No. LLO 99-048E is deleted and incorporated within License Order No. LLO 99-048 B (Rev 1). License Order No. LLO 99-048F is deleted and incorporated within License Order No. LLO 99-048 A (Rev 1).

ASSOCIATE ADMINISTRATOR FOR COMMERCIAL SPACE TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

By: Carole C. Flores
Carole C. Flores, Manager
Licensing and Safety Division

Issued: September 11, 2007
Effective: September 11, 2007